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09/386,972	08/31/1999	BEHNAM MORADI	2008.003000	1988
23720	7590	01/09/2004	EXAMINER	
WILLIAMS, MORGAN & AMERSON, P.C. 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			RAMSEY, KENNETH J	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 01/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/386,972

Applicant(s)

MORADI, BEHNAM

Examiner

Kenneth J. Ramsey

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4-7,10,11,13,14,16,17,19,20,22,23 and 25-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2,4-7,10,11,13,14,16,17,19,20,22,23 and 25-33 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: .

DETAILED ACTION

In response to the Board of Interferences and Patent Appeals decision of October 22, 2003 reversing the examiner's final rejection and remanding the application to the examiner for further consideration in view of the Itoh et al US 5,564,958 (Itoh) and Sakano et al JP 2-299129 (Sakano) references, prosecution on the merits is reopened.

Description of the Pertinent Prior Art Relied Upon

Of the patents relied upon below, the patents to Itoh , Konuma US 6,042,441, and Watkins et al US 5,827,102 (Watkins) were previously cited by the examiner and are described in the board decision.

Garcia 5,521,461 shows that it is commonplace to clean the manufactured parts of a field emission display throughout the manufacturing process, i.e. prior to assembly of the display as recited in claim 11. See column 3, lines 1-6.

Note that a typical field emission display of Garcia comprises in the order of one million cathodes, compared to three cathodes for a CRT as in the main embodiment of Konuma. In Garcia there are at least in the order of 1 million pixels (see column 1, lines 53-58 i.e., 1,000 lines x 1,000 lines), and each pixel is controlled by its own cathode (column 1, lines 38-40). Thus, there are in the order of 1 million cathodes to be degassed (each comprised of 10,000 microtips per column 1, lines 38-40 of Garcia) in a flat panel field emission display, compared to only three cathodes (each again comprised of 10,000 microtips) in the CRT of Konuma, US 6,042,441.

Fujii et al US 6,053,791 (Fujii) is cited to further illustrate the difference between a flat panel display and a CRT to which forms the sole example of Konuma. It is to be

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noted that as taught by the patent to Fujii, the cathodes of a flat field emission panel can number in the order of 1024 times 3072 cathodes (number of x directions wires times the number of y direction wires since each intersection denotes a cathode location), well over 3 million cathodes in this case. This is in stark contrast to the 3 cathodes for a cathode ray tube as in the disclosed embodiment of Konuma. Note also that as shown by Fujii, the cathodes of a flat panel display can not be all operated at the same time in view of power limitations and since the amount of heat generated would overwhelm the capability of the device to discharge the heat so as to prevent thermal damage to the device. This is because the cathodes of a flat panel display are formed directly on a large area substrate that, unlike the cathode support of a CRT, is heat sensitive in view of the very different coefficients of thermal expansion and the associated low tolerance of temperature gradients brought about by local temperature changes in a large area substrate. Therefore, during voltage application during the manufacture the display, the cathodes of Fujii are divided into 16 groups each uniformly distributed to maintain an acceptable and uniform level of heating of the device. See column 3, lines 22-37 and column 10, line 60 to column 11, line 14. Even with such a distribution, the voltage application to each cathode must be pulsed to avoid an excessive heat rise or temperature gradient (see e.g. column 1, lines 64-66, column 2, lines 11-15 and column 4, lines 50-67 of Fujii).

It is not surprising therefore in view of the teachings of Garcia and Fujii, that the amount of time of field emission during the degassing step would be different between the step of degassing a CRT and the application of a like process to a flat panel display.

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That is, for the step of degassing an equivalent size screen by operating the cathodes, the cathodes of a CRT would have been subjected to ion bombardment damage for on the order of from 333 thousand to a million times greater than the cathodes in a flat panel device. Thus the time of operating the cathodes of a CRT during cleaning has to be curtailed substantially as compared to that of a flat panel display device. The examiner thus maintains that although Konuma states that his method is applicable to flat panel field displays as well as a CRT, without stating that the amount of time of operating the cathodes during the degassing step would be changed, one of ordinary skill in the art would have recognized the need to accordingly modify the cleaning time parameter in view of the differences between a CRT and a flat panel display.

The patent to Sakano referenced by the Board of Appeals, was cited in Itoh et al and is similar to the process of Konuma except activation of a getter during the bake out step is not described. Although the desired vacuum pressure is not mention, Sakano teaches applying a driving voltage to the cathodes the thereby emit electrons for three separate periods during the evacuation of the field emission device. During the first and second periods, of 40 minutes each, a potential is applied respectively to the control electrode 7 and then to the focus electrode 8 to cause the electrons to bombard and thus degas those electrodes. During the third period, of 20 minutes, a potential is applied to the accelerator electrode 11, upon which are disposed a fluorescent pattern 9 and a metal back 10, to degas the faceplate. The type of cathode (surface-conduction type) is different from that disclosed by the applicant. The teaching of a control electrode 7 is deemed however to suggest that the device of Sakano is a field emission

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device because the electron emission can be turned on or off by applying suitable potential to the control electrode. Because of above noted differences in Sakano, and to avoid the issue of display type, the patent to Sakano is relied upon as a secondary reference as well as the primary reference.

Miura, US 3,839,068, is cited to explain the nature of the metal back in Sakano. The metal back, 10, of aluminum (page 4, line one of the translation of Sakano), is typically employed in a CRT (see Fujii, column 6, lines 48-51) but is not typical in flat panel displays because insufficient energy is typically applied to the electrons (in order for the electrons to penetrate a metal back) in the short distance that the electrons travel between the cathode and anode of a flat panel display. Although the function and thickness of the metal back is not described in Sakano or Fujii, it is known from Miura, column 1, lines 7-13, that the metal back adheres to the phosphor powder to brighten a display by reflecting light emission to the viewer but is otherwise porous between the phosphor particles such that outgassing from the fluorescent material exists even in the presence of the metal back. A metal back is not employed in the applicant's flat panel device. Thus a metal back, or aluminum film, is optional in a flat panel display; however, it is not clear from any of the patents how much the presence or absence of the aluminum film affects the amount of time necessary to degas the fluorescent material.

Prior Art Rejections

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-7, 11, 13, 14, 17, 19, 20, 23 and 25-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al, US patent 5,564,958 (Itoh) in view of Sakano et al JP 2-299129 (Sakano). With regard to claims 17, 19, 20, 23, 25-27, 32 and 33, these claims are to a field emission device formed by a method comprising cleaning a base plate of the field emission device, the base plate having an opening for a tube, assembling and sealing the base plate with the face plate of the field emission device, including the step of operating the sealed device in a pressure of "at most about 10^{-8} Torr for at least approximately 15 minutes to remove at least a portion of outgassed materials from within the field emission device prior to pinching off the tube to seal off the field emission device completely. As alluded to in the board decision, product-by-process claims are unpatentable if the product defined by a product-by-process claim is the same as or obvious from a product of the prior art even if the prior art product was made by a different process, and regardless of whether the process of the product-by-process claim is novel and unobvious. See *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). As per column 7, lines 35-40, the display device of Itoh includes a field emission display. It is the position of the examiner that the field emission device of Itoh is substantially identical to the device claimed. First of all, excluding the issue of cleanliness and lifetime, the only possible other difference recited in the claims is the connection of the exhaust tube to a hole in the baseplate of the field emission device and pinch sealing the tube subsequent to obtaining the desired atmosphere. However, to position the exhaust tube in the base plate of a flat panel

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display device such as Itoh is well known and obvious as shown by Sakano which illustrates an exhaust tube 20 in the base plate that clearly has been collapsed by heating in a pressurized atmosphere or that has been pinched. Either mode is well known and is obvious as well since clearly some means must be applied to close the exhaust tube and it is well known to close off a tube by pinching. Thus excluding the issue of cleanliness, the device of Itoh is the same as or at least substantially the same as that of the claimed invention since position of the exhaust tube of Itoh as claimed and pinch sealing the tube is obvious from Sakano. Furthermore, the degree of cleanliness of the field emission device of Itoh as modified by Sakano is the same as or at least substantially the same as that of the claimed device since, as noted in the board decision, 1) the cleaning process of Itoh, column 6, line 64 through column 7, line 16 includes operating the device at a pressure of about 10^{-7} Torr several times for several minutes each time, which operating step appears equivalent to or at least approaches applicant's cleaning of operating his device "at most about 10^{-8} Torr"¹ for at least approximately 15 minutes", and 2) since Itoh's cleaning procedure includes the further cleaning steps of introducing and exhausting a purging gas between the times of operating the device at pressures of "at most about 10^{-8} Torr" and finally carrying out an evacuation of the device for 6 hours while heating to degas the device. As to claims 19, 20, 26 and 27, it makes no difference in the final product whether the exhaust tube is

¹ As per appellant's specification, page 9, lines 14-19 which forms the sole description of this term, "at most about 10^{-8} Torr" comprises operating the device at "very low pressure, also in a range of approximately 10^{-7} Torr to 10^{-8} Torr...". See also appellant's specification, page 4, lines 1-9, which uses the phrase, "at most about 10^{-8} Torr" to summarize the same description. Thus "at most about 10^{-8} Torr" includes pressures as low as 10^{-7} Torr.

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pinched off while the field emission device is in a vacuum or at atmospheric pressure since the exhaust tube in either case would not be open to other than the desired vacuum of a vacuum pump at the time of closing the exhaust tube. Thus the corresponding features the field emission device of Itoh as modified by Sakano are prima facie the same as or substantially the same as that of the product made by the process as recited in claims 17, 19, 20, 23-27, 32 and 33. Therefore, for these claims, the burden is upon applicant to provide evidence that the field emission device of Itoh as modified by Sakano, does not necessarily or inherently possess the relied-upon characteristics of his field emission device. See the case law recited at the bottom of the board decision, page 7.

As to claims 4, 5, 11 and 28-31, it is the examiner's position that the time frame of Itoh (several times several minutes) together with the teaching of Sakano page 6, lines 27-33 of operating the cathodes for 40 minutes each to degas the control and focusing electrodes and 20 minutes to degas the faceplate of a field emission device, albeit without specifying the degree of vacuum, makes the time frame of approximately 15 to 30 minutes or 20 minutes as recited in these claims for operating the device during cleaning obvious. That is it would have been obvious for one of ordinary skill in the art to operate the device of Itoh for that number of times and that number of minutes to achieve the optimum life of the device, e.g. 20-21 minutes, e.g. an operating time for which for which no further benefit nor unacceptable detriment would occur from the step of operating the device during the cleaning process merely involves the obvious and well known process of empirical testing, since the processing conditions as claimed are

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substantially disclosed by Itoh and Sakano and to determine the optimum time for operating the cathodes during cleaning, i.e. See MPEP 2144, selecting an operable or optimum parameter for a range value has been held by the courts, absent evidence to the contrary, to merely involve obvious engineering when the general conditions of the process are substantially taught. Although applicant's specification states that field emission devices made by his process provide a significantly greater life span than those of the prior art, it has not been shown that this is true with respect to the teachings of either Itoh or Sakano.

As to claims 6 and 7, either mode of evacuating the field emission device is well known in the art and obvious. For instance Itoh, figure 1, discloses an evacuation tube connected to evacuate the display panel in a furnace and at column 7, lines 15 to 16 Itoh further discloses the alternative step of sealing a lid to form the high vacuum. The latter step of sealing a lid to form a high vacuum most surely is preformed in a vacuum furnace since, other than pinching or heat collapsing an exhaust tube connected to an exhaust pump, it is impossible to form a vacuum without the use of a vacuum furnace. The former step of closing off an exhaust tube connected to an exhaust pump is most practical where a vacuum furnace is not used, i.e. sealing the exhaust tube while the furnace is at atmospheric pressure to avoid the expense of furnace seals and additional pumping of the atmosphere surrounding the device.

Claims 11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh in view of Sakano as applied to claims 1 etc. further in view of Garcia. As to claim 11, it is prima facie obvious to clean the parts of a field emission

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device of Itoh, e.g., baseplate, prior to assembling and sealing the parts together since the interior surfaces are not accessible for readily removal of gross contamination, e.g. dust, fluids etc., after assembly. See Garcia, column 3, lines 1-6.

Claims 2, 10, 16 and 22 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh in view of Sakano as applied to claims 4, 17 and 23 above (or Itoh in view of Sakano and Garcia as applied to claim 11 above) and further in view of Konuma and Watkins. These claims further differ in that the degree of pressure during the operation of the field emission device during cleaning is "approximately 10^{-8} Torr". However, as shown by each of Konuma and Watkins, it is known to obtain such a high degree of vacuum cleanliness in order to improve the life of a field emission device. Since, as shown by Konuma and Watkins, the combined effect of the higher degree of vacuum and the heating due to operating the device as specified by these claims can only serve to enhance the degassing effect and thus the ultimate cleanliness of the device of Itoh et al as modified above by Sakano, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to operate the device of Itoh et al at this pressure at least in the latter part of the cleaning process.

Claims 4-7, 17, 19, 20, 23, 25-27, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakano in view of Itoh. With regard to claims 17, 19, 20, 23, 25-27, 32 and 33, these claims are to a field emission device formed by a method comprising cleaning a base plate of the field emission device, the base plate having an opening for a tube, assembling and sealing the base plate with the face plate of the field emission device, including the step of operating the sealed device in a pressure of "at

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most about 10^{-8} Torr for at least approximately 15 minutes to remove at least a portion of outgassed materials from within the field emission device prior to pinching off the tube to seal off the field emission device completely. As alluded to in the board decision, product-by-process claims are unpatentable if the product defined by a product-by-process claim is the same as or obvious from a product of the prior art even if the prior art product was made by a different process, and regardless of whether the process of the product-by-process claim is novel and unobvious. See *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). As per Itoh, column 7, lines 35-40, to employ conical type field emission cathode as the cathode means of the flat panel display device of Sakano would have been obvious to one of ordinary skill in the art. It is the position of the examiner that the field emission device of Sakano is substantially identical to the device claimed since the use of a high vacuum to protect the cathodes, e.g. about 10^{-8} Torr, during the gas cleaning steps of Sakano would have been obvious to one of ordinary skill in the art in view of Itoh and to pinch seal the exhaust tube would have been obvious to one of ordinary skill in the art because it is well known to employ pinching to close an evacuation tube. Thus excluding the issue of cleanliness, the flat panel device of Sakano is the same as or at least substantially the same as that of the claimed invention. Furthermore, the degree of cleanliness of the field emission device of Sakano as modified by Itoh is the same as or at least substantially the same as that of the claimed device since Sakano clearly teaches that the time of cleaning is in the order of several tens of minutes and although that time may be greater than that claimed, the additional time of cleaning beyond that which produced the optimum

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degree of cleaning would not tend to produce a materially different device absent detrimental damage to the cathodes which has not been shown. As to claims 19, 20, 26 and 27, it makes no difference in the final product whether the exhaust tube is pinched off while the field emission device is in a vacuum or at atmospheric pressure since the exhaust tube in either case would not be open to other than the desired vacuum of a vacuum pump at the time of closing the exhaust tube. Thus the corresponding the features the field emission device of Sakano as modified by Itoh are prima facie the same as or substantially the same as that of the product made by the process as recited in claims 17, 19, 20, 23-27, 32 and 33. Therefore, for these claims, the burden is upon applicant to provide evidence that the field emission device of Sakano as modified by Itoh, does not necessarily or inherently possess the relied-upon characteristics of his field emission device. See the case law recited at the bottom of the board decision, page 7.

As to method claims 4 and 5, the phase at least approximately 15 minutes is anticipated by the time span taught by Sakano.

As to claims 6 and 7, either mode of evacuating the field emission device is well known in the art and obvious. For instance Itoh, figure 1, discloses an evacuation tube connected to evacuate the display panel in a furnace and at column 7, lines 15 to 16 Itoh further discloses the alternative step of sealing a lid to form the high vacuum. The latter step of sealing a lid to form a high vacuum most surely is preformed in a vacuum furnace since, other than pinching or heat collapsing an exhaust tube connected to an exhaust pump, it is impossible to form a vacuum without the use of a vacuum furnace.

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The former step of closing off an exhaust tube connected to an exhaust pump is most practical where a vacuum furnace is not used, i.e. sealing the exhaust tube while the furnace is at atmospheric pressure to avoid the expense of furnace seals and additional pumping of the atmosphere surrounding the device.

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Claims 11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakano in view of Itoh as applied to claims 1 etc. further in view of Garcia. As to claim 11, it is prima facie obvious to clean the parts of a field emission device of Itoh, e.g., baseplate, prior to assembling and sealing the parts together since the interior surfaces are not accessible for readily removal of gross contamination, e.g. dust, fluids etc., after assembly. See Garcia, column 3, lines 1-6.

Claims 2, 10, 16 and 22 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Sakano in view of Itoh as applied to claims 4, 17 and 23 above (or Sakano in view of Itoh and Garcia as applied to claim 11 above) and further in view of Konuma and Watkins. These claims further differ in that the degree of pressure during the operation of the field emission device during cleaning is "approximately 10^{-8} Torr". However, as shown by each of Konuma and Watkins, it is known to obtain such a high degree of vacuum cleanliness in order to improve the life of a field emission device. Since, as shown by Konuma and Watkins, the combined effect of the higher degree of vacuum and the heating due to operating the device as specified by these claims can only serve to enhance the degassing effect and thus the ultimate cleanliness of the device of Itoh et al as modified above by Sakano, it would have been obvious to one of

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ordinary skill in the art at the time of applicant's invention to operate the device of Itoh et al at this pressure at least in the latter part of the cleaning process.

Claims 28-31 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Sakano in view of Itoh as applied to claim 4 above (or over Sakano in view of Itoh and Garcia as applied to claim 11 above), and further in view of Konuma and Watkins. It would have been obvious to one of ordinary skill in the art to employ a getter in Sakano as taught by Konuma or to omit the aluminum back as in Watkins, such that the time for degassing the flat panel field emission display would be shortened from that disclosed in Sakano. Although the optimum time depends upon the specific parameters of the field emission display and the specific process, and thus would vary within the scope of applicant's claims, the step of operating the field emission device for a time period of 15-30 minutes or for 20 minutes during degassing of a field emission display would have been obvious to one of ordinary skill in the art. That is it would have been obvious for one of ordinary skill in the art to determine for the specific device and process the optimum time, e.g. 20 minutes, for which for which no further benefit nor unacceptable detriment would occur from the step of operating the device during the cleaning process merely involves the obvious and well known process of empirical testing, since the processing conditions as claimed are substantially disclosed by Sakano and Itoh and to determine the optimum time for operating the cathodes during cleaning, i.e. See MPEP 2144, selecting an operable or optimum parameter for a range value has been held by the courts, absent evidence to the contrary, to merely involve obvious engineering when the general conditions of the process are substantially

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taught. Although applicant's specification states that field emission devices made by his process provide a significantly greater life span than those of the prior art, it has not been shown that this is true with respect to the teachings of either Itoh, Konuma, Watkins or Sakano.

Response to Argument

Applicant argues that Itoh teaches away from the claim process since Itoh states that operating the device while evacuating the device fails to sufficiently improve the life of the device but that a process of repeatedly introducing gas and purging remarkably improves the life of the device. In fact Itoh finds fault with both processes and teaches that repeating several time the steps of evacuating, operating, introducing a purging gas prior to a final evacuation results in a more improved life of a display. See Itoh, column 2, lines 31-43, and column 6, lines 58-63 and his teaching referenced above. Nowhere, has appellant shown that his process results in a field emission device having a significantly extended life beyond that of the devices made by the processes that Itoh disparages, nor does the improved process of Itoh teach away from the claimed invention, since it would be expected that the prior art devices would have a satisfactory life for the amount of money spent.

Applicant further argues that Konuma is silent with respect to the issue of materials out gassed from the anode during normal operation of the CRT. In fact the teaching of employing a getter in Konuma is an acknowledgement that gases may be out gassed during normal operation of the CRT. If there were no gases to be out gassed there would be no need to include a getter. The purpose of the degassing steps

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of the prior art including the process of Konuma is to remove sufficient gasses from the device so that the getter will be sufficient to protect the life of the tube. Moreover, degassing of the anode during the step of operating the device is inherent. See Itoh, column 2, lines 36-39.

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Directions for Responses

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth J. Ramsey whose telephone number is 308-2324. The examiner can normally be reached on M-F from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.

Approved
Janice A. Falcone
JANICE A. FALCONE
DIRECTOR
TECHNOLOGY CENTER 2800

Kenneth J. Ramsey
Kenneth J. Ramsey
Primary Examiner
Art Unit 2879

KJR